

May Summary

May 24, 2009

(1) Based on season-to-date conditions, winter grains (wheat and barley) production in MY 2009/10 is expected to be somewhat improved over last year's severely drought reduced harvest, though total production is not expected to rebound to near-normal levels. Seasonal rainfall has been mixed, with the best accumulations occurring in the north-central and northwestern provinces. Much below normal rainfall has plagued much of the remainder of the country for the second consecutive year, including the major grain producing province of Al-Hasakah in the northeast, causing crop failures in many non-irrigated areas. It is apparent that irrigated grain crops are in better condition than at this time last year in the major producing provinces of Syria, despite the fact that reservoirs are showing well-below normal storage levels. This may indicate that water distributions from Turkey through major waterways has improved this year, or that regional water-use policy is favoring grain production irrespective of the potential longer-term water supply problems this poses. General crop conditions in Syria, however, are less than ideal as large areas in a number of primary grain producing provinces show sparse crop cover or extremely premature crop senescence. Harvest operations typically begin in June, yet crops over huge regions in the north and northeast either failed or ripened by the first week of April, some 7 weeks ahead of normal. The scale of premature senescence suggests widespread crop failure in non-irrigated crops or drought induced early maturity which typically results in significant grain yield reductions.

(2) Rainfall in the primary grain-producing provinces of northern Syria has shown a west- to east decreasing gradient during the 2009/10 MY growing season (Figure 1). To date, the westernmost provinces have received normal to above normal rainfall accumulations, but in eastern Aleppo (Halab) and eastwards cumulative rainfall has been well below normal. During the month of May rainfall was generally disappointing as was the case with April, being well below normal over most of the important grain producing regions (Figure 2). April and May rainfall is usually critical in determining the overall outlook for winter grain production in Syria, and this year's April and May shortfall poses the prospect of a second consecutive poor harvest. The rainfall graphs shown in Figure 3 show that rainfall trends in Idlib and Aleppo are on par with normal conditions, Ar-Raqqah is experiencing higher than normal precipitation, and Al-Hasakah as being well below normal. Please note that there appears to be disagreement between Figures 2 and 3 with respect to rainfall in Ar-Raqqah province, which is showing lower than normal rain fall in Figure 2 yet the opposite case in Figure 3. It is believed that Figure 2 represents the general reality, in that satellite imagery has revealed widespread crop failure in rainfed croplands in Ar-Raqqah, which is symptomatic of significantly deficient rainfall over the region.

(3) MODIS NDVI vegetation index time series data (Figure 4) shows mixed results for overall grain crop development in many areas of Syria this season. While some areas of Syria, notably the Idlib and Aleppo provinces are doing well, parts of Ar-Raqqah, Al

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Hasakah, Damascus, Dar'a, and As-Suwayda provinces are experiencing lower than normal growth conditions. As a result of deficient rainfall during the MY 2009/10 growing season, major rainfed grain areas in a number of provinces (Al-Hasakah, Ar-Raqqah, Aleppo, Damascus, Dar'a, and As-Suwayda) appear to be faring poorly in comparison with the MY 2006/07 benchmark year, but slightly better than the seriously drought-affected MY 2008/09 season (Figure 5). Similar patterns are seen when compared with the five-year mean for MY 2003/04 through MY 2008/09 (Figure 6). This indicates in general that rainfed grain production may be well below normal this year, though somewhat improved over the situation during last year's severe drought. Many poorly developed crop fields were turned over to grazing livestock last season, when it was apparent that crop yields would be extremely low. This practice may not occur to the same degree this year owing to reports of a substantial decline in grazing livestock numbers, as well as the acute shortage of food and feed grains in the country. Farmers are expected to make whatever effort necessary to harvest as much viable grain as possible this year. The seasonal NDVI time series for Al-Hasakah and Ar-Raqqah (Figure 7) suggest that grain yields will be lower than normal for these two provinces but improved when compared to last year. Aleppo and Idlib (Figure 8) suggest that higher grain yields can be expected from these provinces this year in comparison to MY 2008/09.

(4) While overall winter crop vegetation green-up has occurred across Syria in the time period between December and April, drought conditions have seriously limited agricultural potential this year. Quickbird imagery of northeast Al-Hasakah province shows a large number of unplanted or sparsely vegetated fields (Figure 9). AWiFS imagery for the Al-Hasakah and Ar-Raqqah provincial border region shows that while irrigated fields are green, rainfed fields are barren (Figure 10). Furthermore, these provinces are underperforming when compared with MODIS NDVI 5-year mean values (Figure 11). Deir ez-Zor (Figure 12) shows sparser vegetation in cultivated areas outside the main Euphrates River valley, as confirmed in the difference from 5-year mean values (Figure 13). Ar-Raqqah province also has large areas that are obviously drought-affected, with crop vegetation seriously underperforming the mean (Figure 14). Aleppo province is having mixed results with some areas doing very well and others poorly (Figures 15 and 16). Idlib is generally doing well in comparison with the 5-year mean (Figures 15 and 16).

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Commodity	Attribute	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/2010 (Projected)
Barley	Area Harvested (1000HA)	1291	1327	1000	1000	350	500
	Production (1000 MT)	527	767	700	785	200	400
	Yield (MT/HA)	.41	.58	.70	.79	.57	.80
Wheat	Area Harvested (1000HA)	1831	1904	1700	1688	1486	1650
	Production (1000 MT)	4537	4669	4200	4041	2087	3000
	Yield (MT/HA)	2.48	2.45	2.47	2.42	1.40	1.82

(MT/HA) Not official USDA statistics

Table 1. Projected national barley and wheat crop production statistics for MY 2009/10 compared against previous years. Data Source: MODIS NDVI; IRS-P6 AWiFS, USDA-FAS Production, Supply, and Distribution online database.

Cumulative Precipitation Comparison: October to May

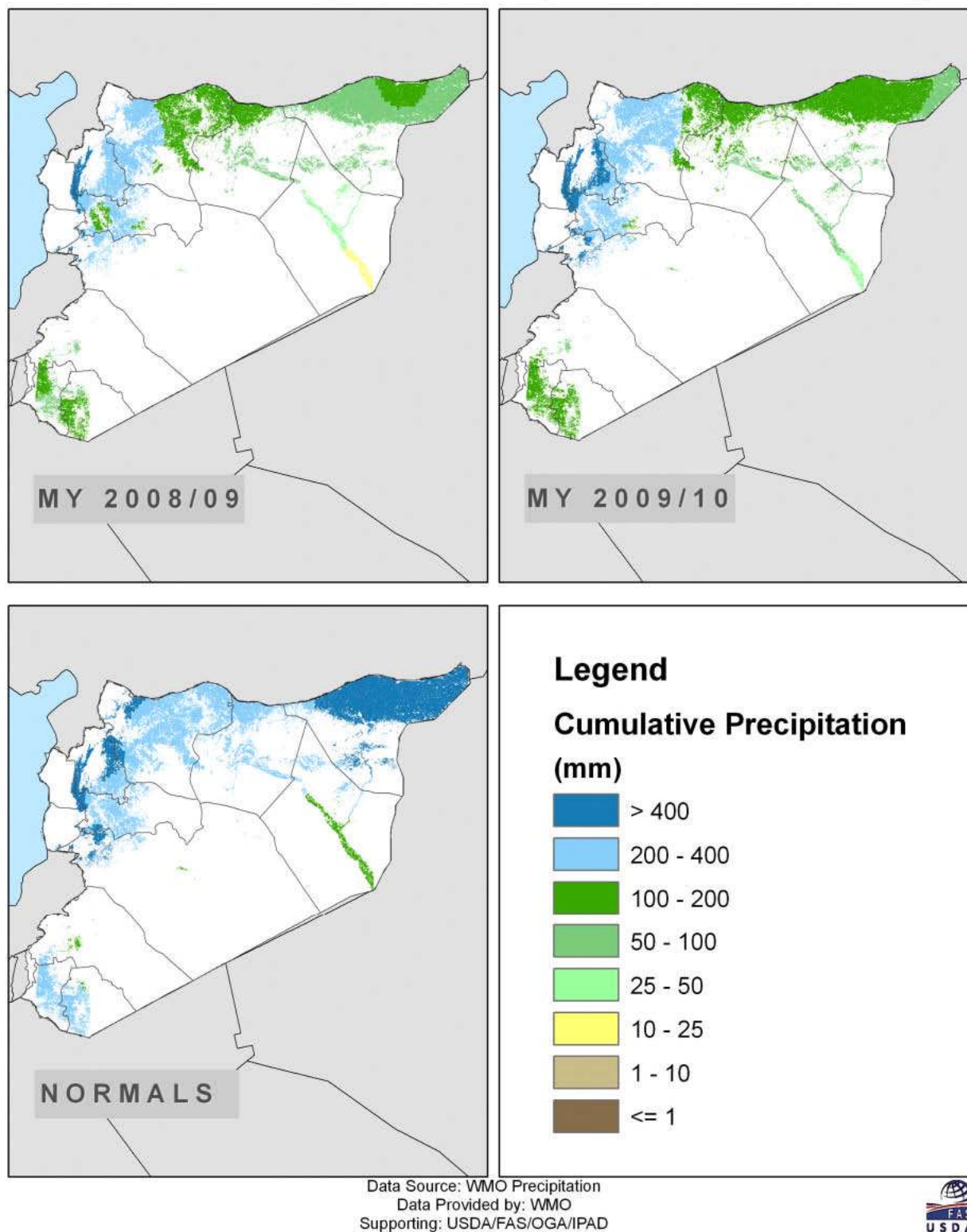


Figure 1. Cumulative precipitation since start of the current winter grains season, MY 2009/10, compared with the previous season, MY 2008/09, and precipitation normals.

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Monthly and Seasonal Cumulative Precipitation: MY 2009/10

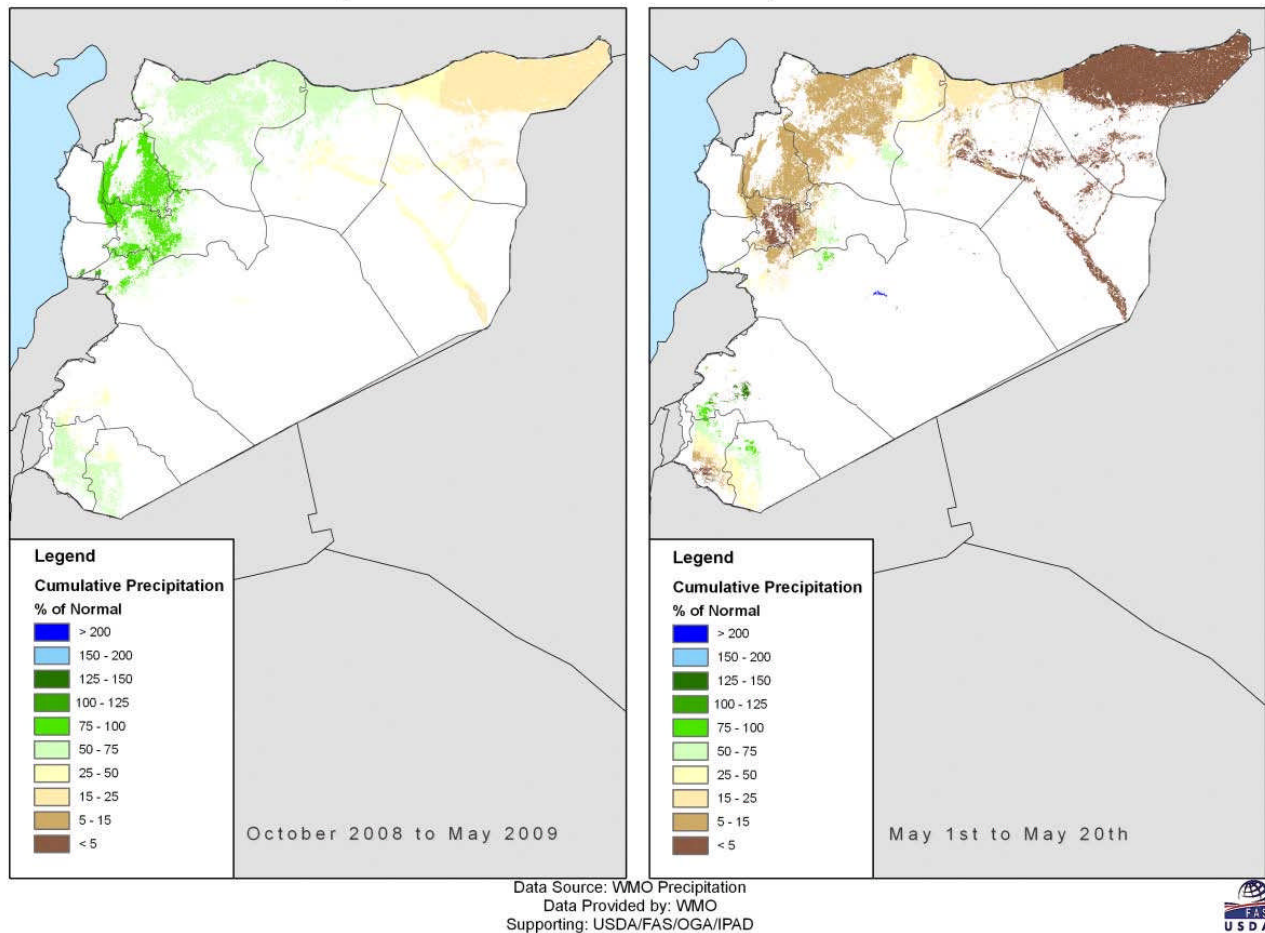


Figure2.Cumulativeprecipitationduringthefirst twodecadesofMay2009.

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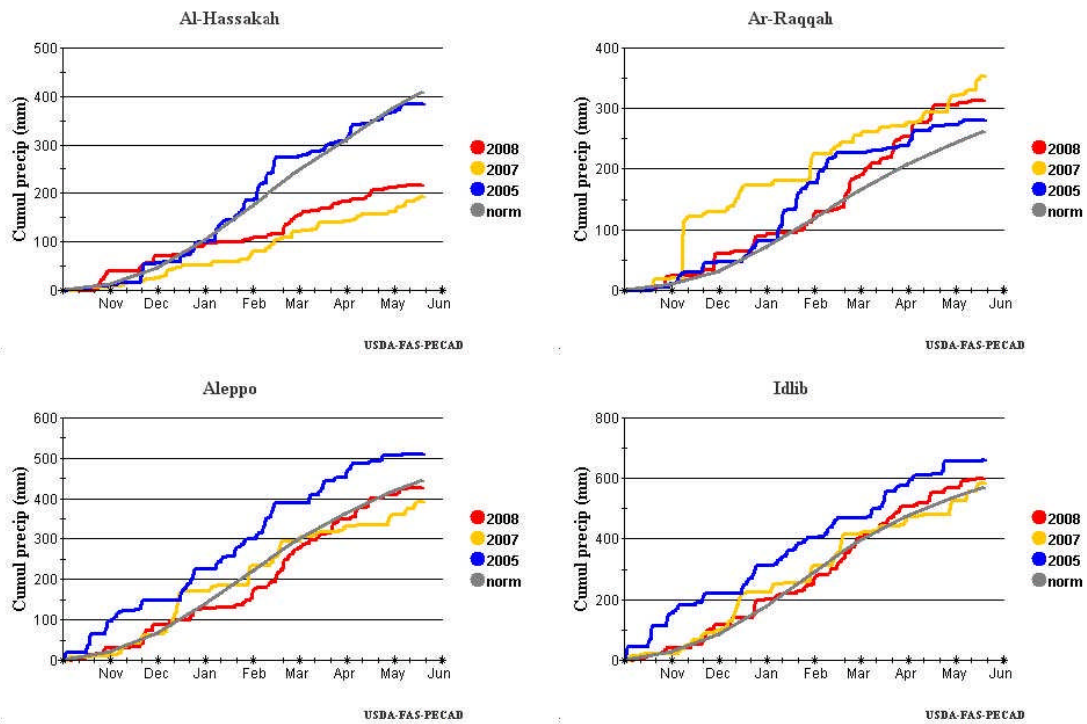


Figure 3: Cumulative rainfall for the four largest grain producing provinces in Syria. 2005, 2007, 2008, and “norm” denote MY 2006/07, MY 2008/09, MY 2009/10, and normals, respectively.

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MODIS NDVI Time Series: MY 2009/10 vs. MY 2006/07 Benchmark

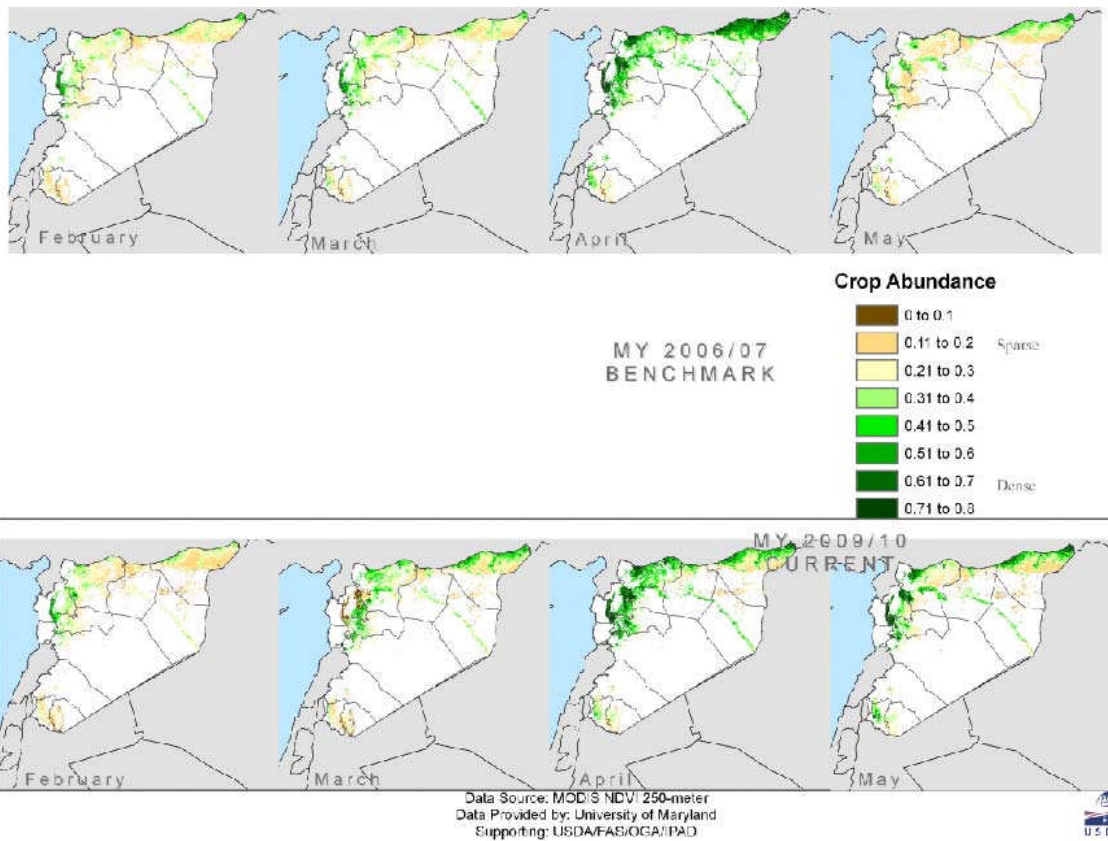


Figure 4. Time series of vegetation abundance through the winter grains season; MY 2005/06 vegetation represents a benchmark year for crop production in Syria, compared against the current conditions for MY 2009/10.

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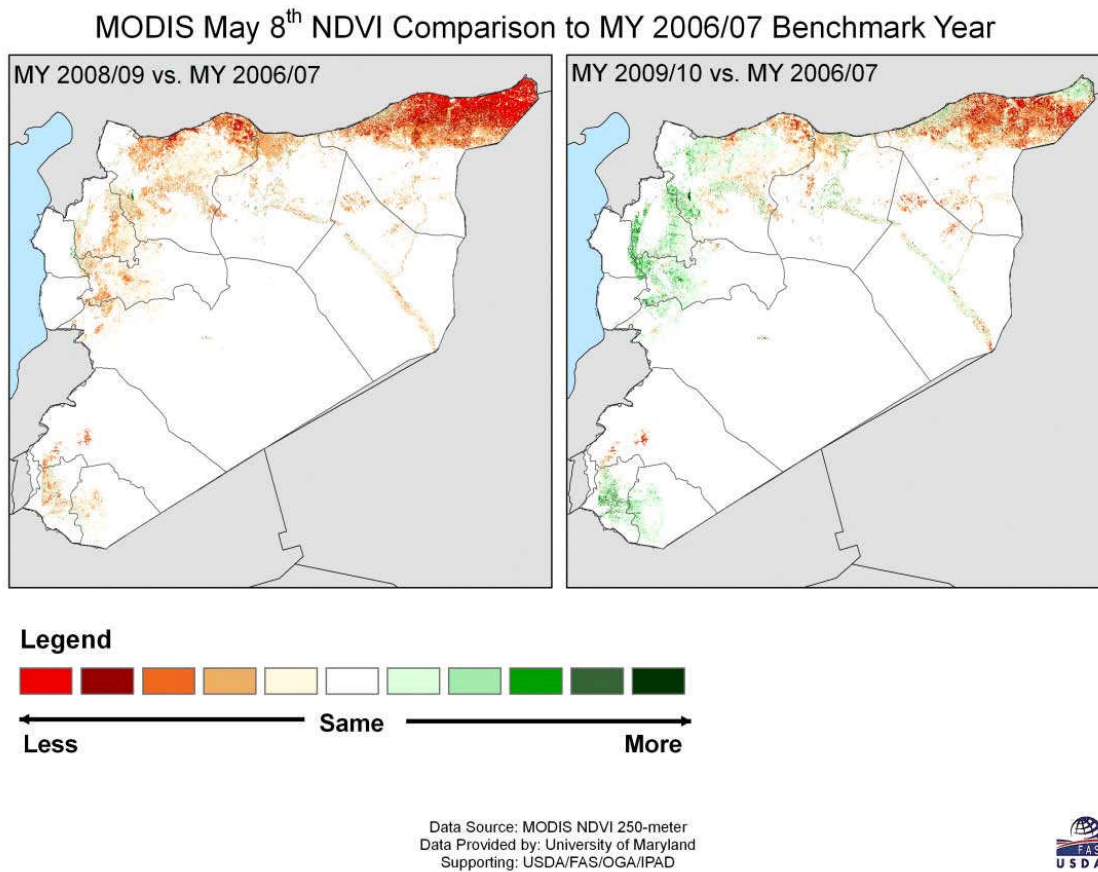


Figure 5. MODIS NDVI change analysis: Previous year MY 2008/09 and current year MY 2009/10 compared with MY 2006/07 benchmark year.

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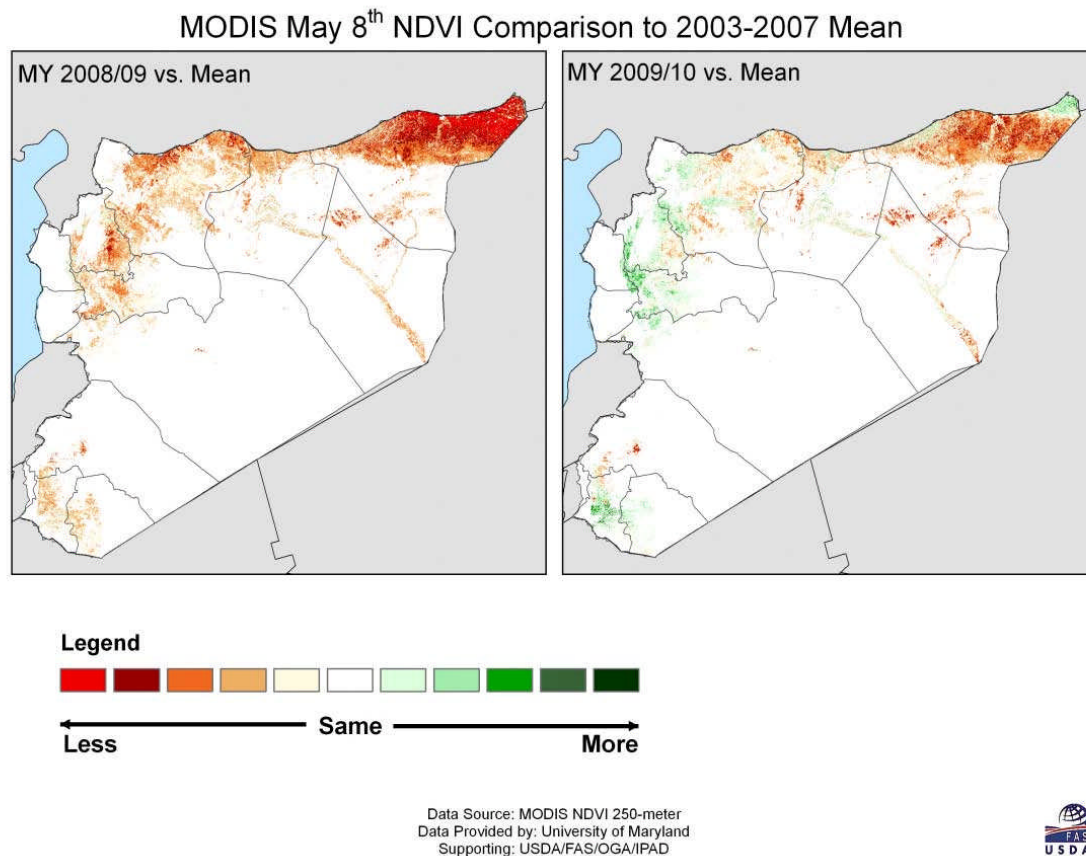
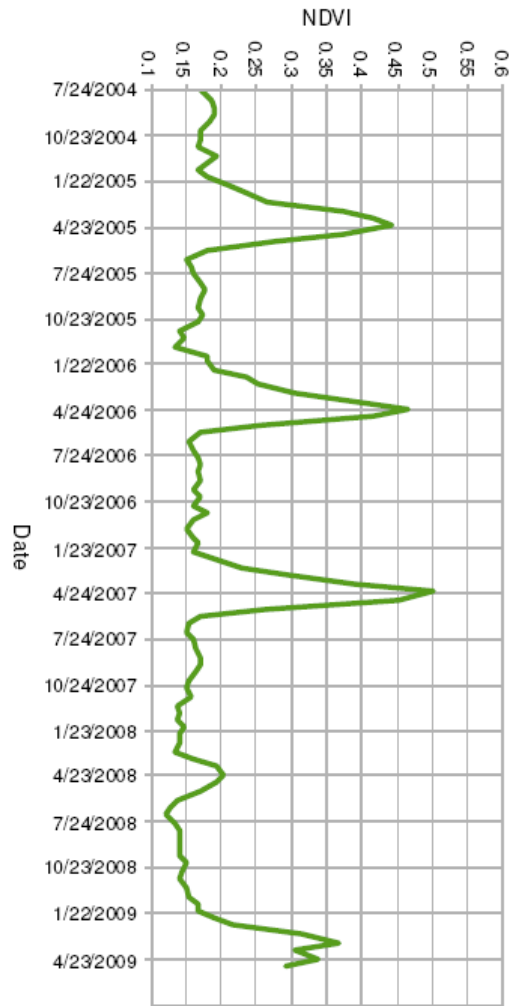


Figure 6. MODIS NDVI change analysis: Previous year MY 2008/09 and current year MY 2009/10 compared with MY 2006/07 benchmark year.



Al-Hasakah seasonal NDVI



Ar-Raqqa seasonal NDVI

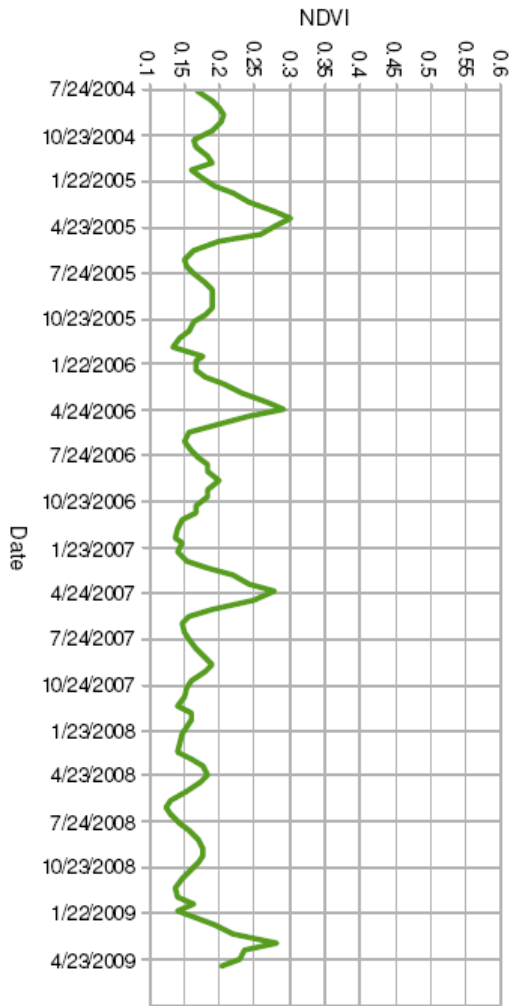
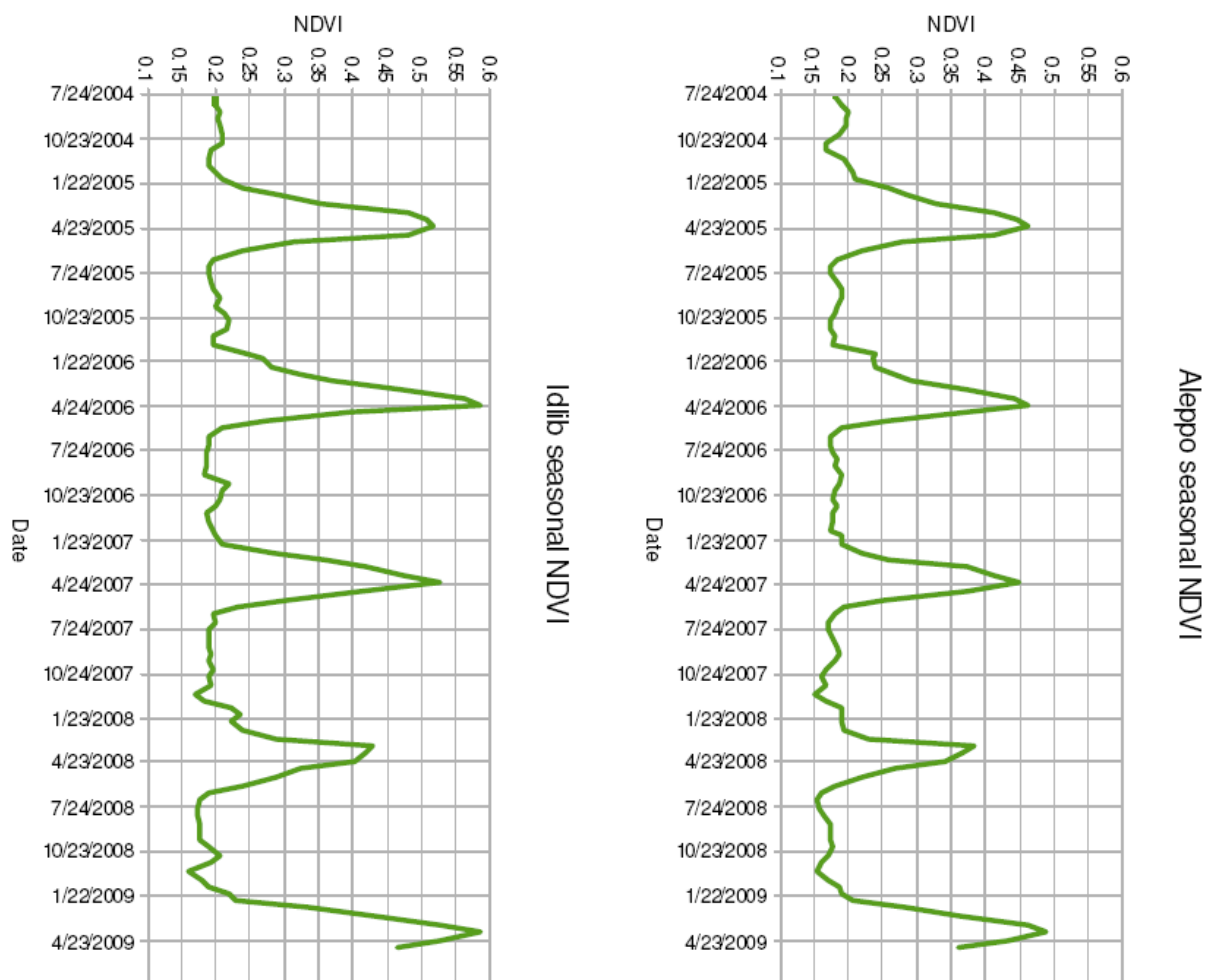


Figure 7: NDVI trends in Al-Hasakah and Ar-Raqqa provinces.

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Figure 8. NDVI trends in Aleppo and Idlib provinces.

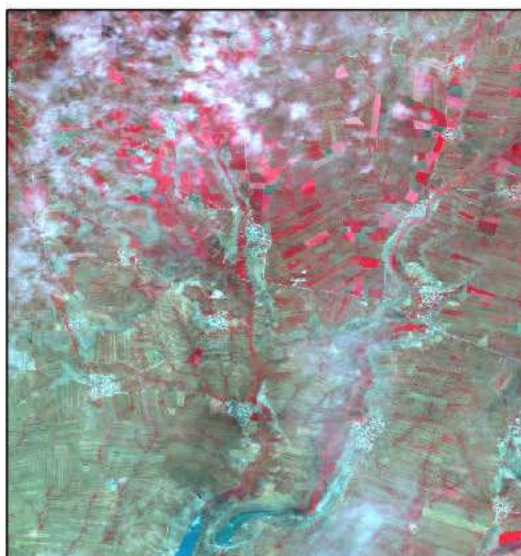


Quickbird imagery of agricultural land change Al-Hasakah Province, Syria

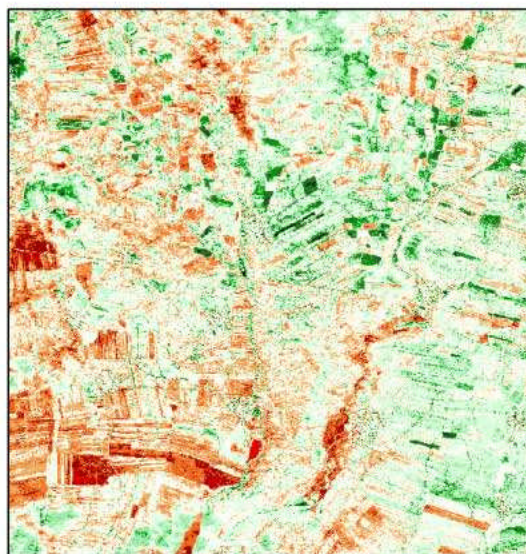
March 14, 2009 Quickbird False-color



May 9, 2009 Quickbird False-color



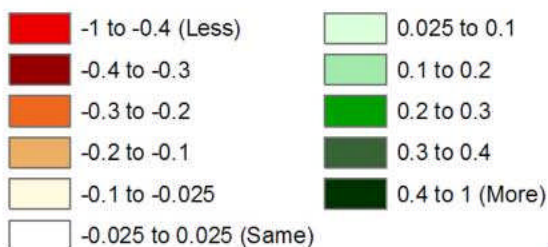
NDVI change



Imagery location



Legend



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Figure 9: Quickbird imagery for an area in northeastern Al-Hasakah province showing the change in conditions between March and May.

Landsat 7 imagery of Al-Hasakah - Ar-Raqqah - Deir ez-Zor
provincial border area, Syria, April 30, 2009



Data source: Landsat 7
Provider: USGS Eros Data Center
USDA/FAS/OGA International Products Assessment Division



Figure 10: Landsat 7 imagery of the Al-Hasakah - Ar-Raqqah - Deir ez-Zor provincial border area.

MODIS May 8th, 2009 NDVI Comparison to 2003-2007 Mean:
Al-Hasakah Province

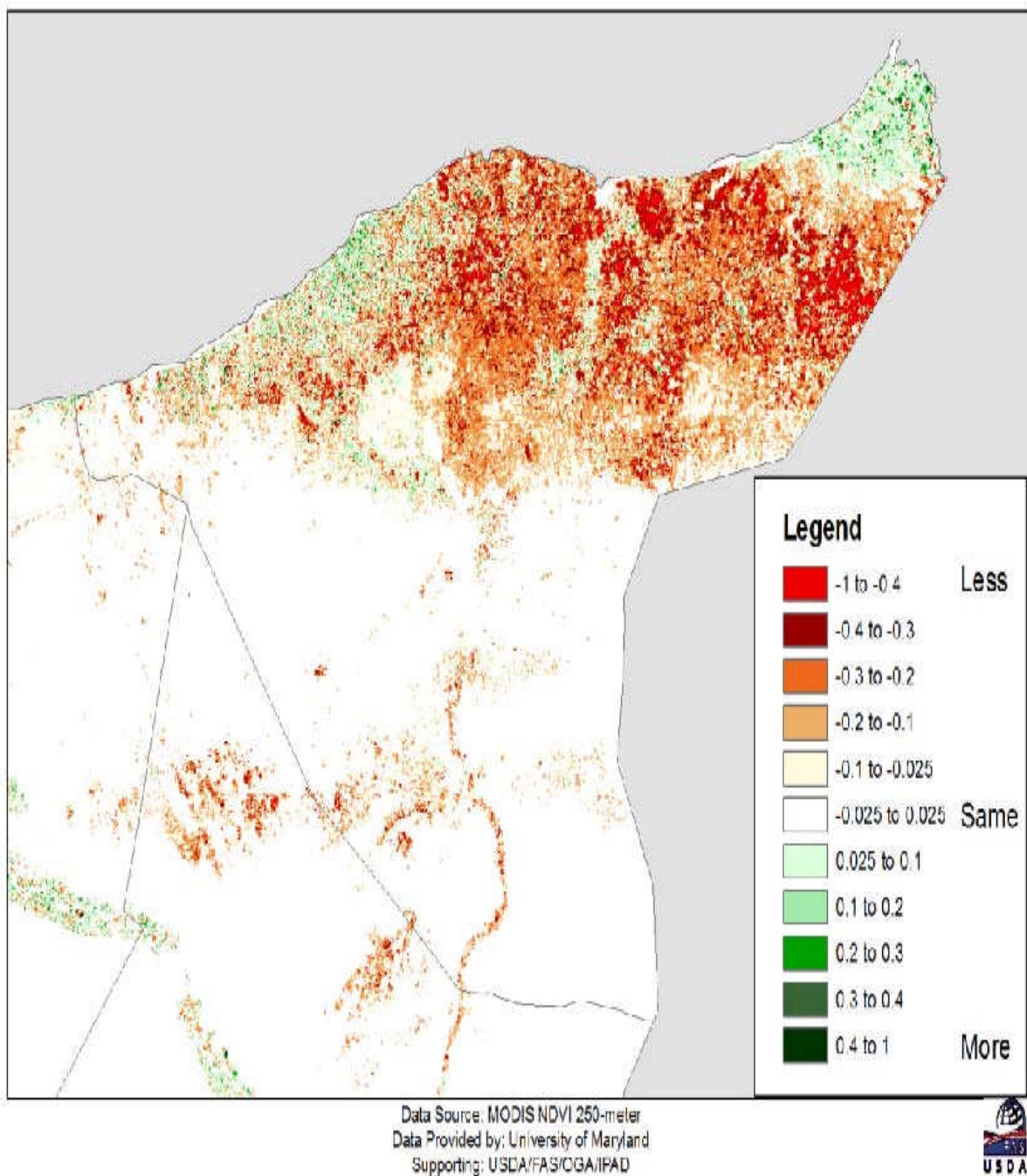
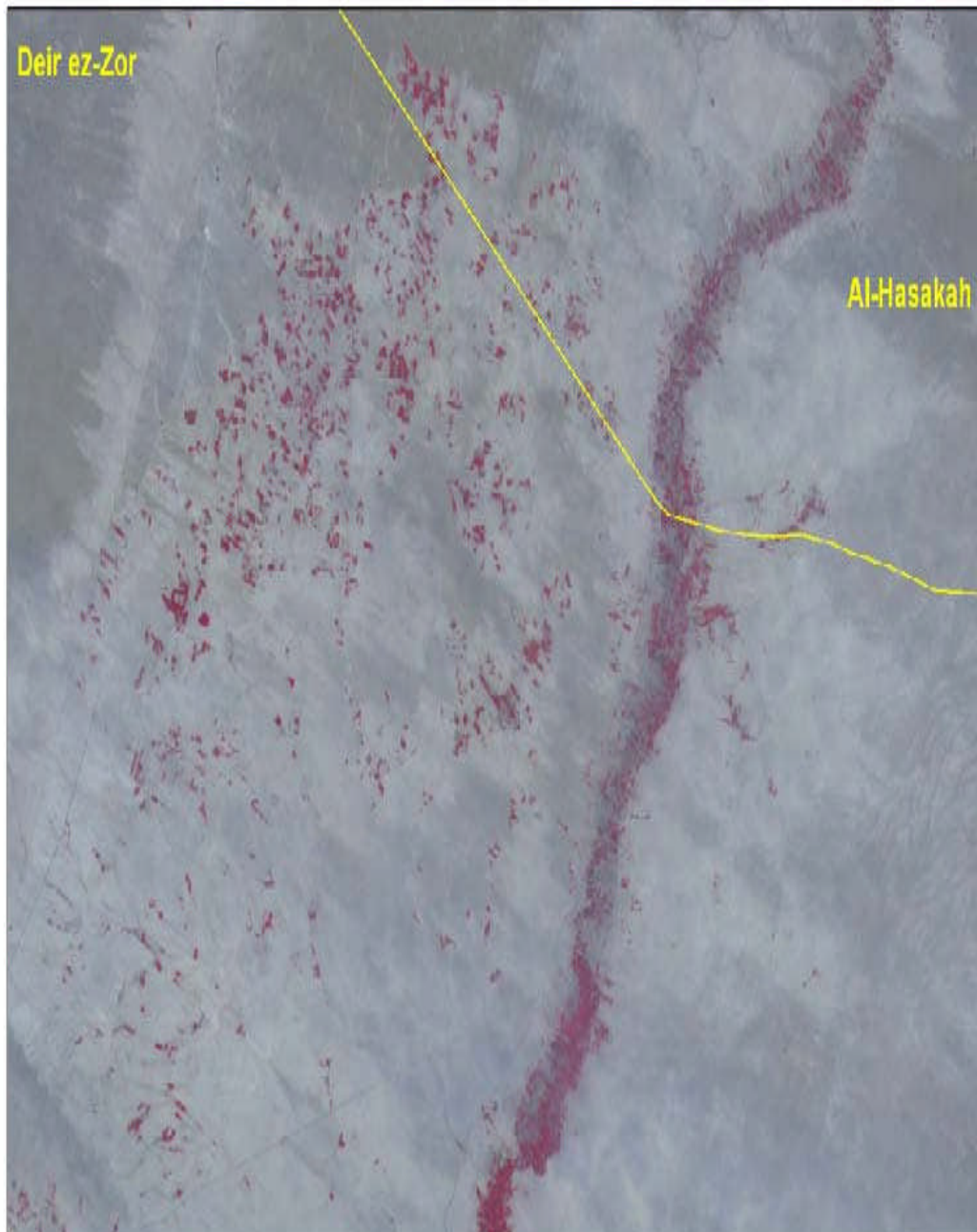


Figure 11: MY 2009/10 MODIS NDVI comparison to 2003-2007 mean for Al-Hasakah province.

AWiFS Imagery of Al-Hasakah and Deir ez-Zor Provinces May 1, 2009



Data source: IRS-P6 AWiFS
Data provided by: NGA
Supporting: USDA/FAS/OGA International Products Assessment Division



Figure 12: AWiFS imagery of the Al-Hasakah and Deir ez-Zor provincial border.

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MODIS May 8th, 2009 NDVI Comparison to 2003-2007 Mean:
Deir ez-Zor Province

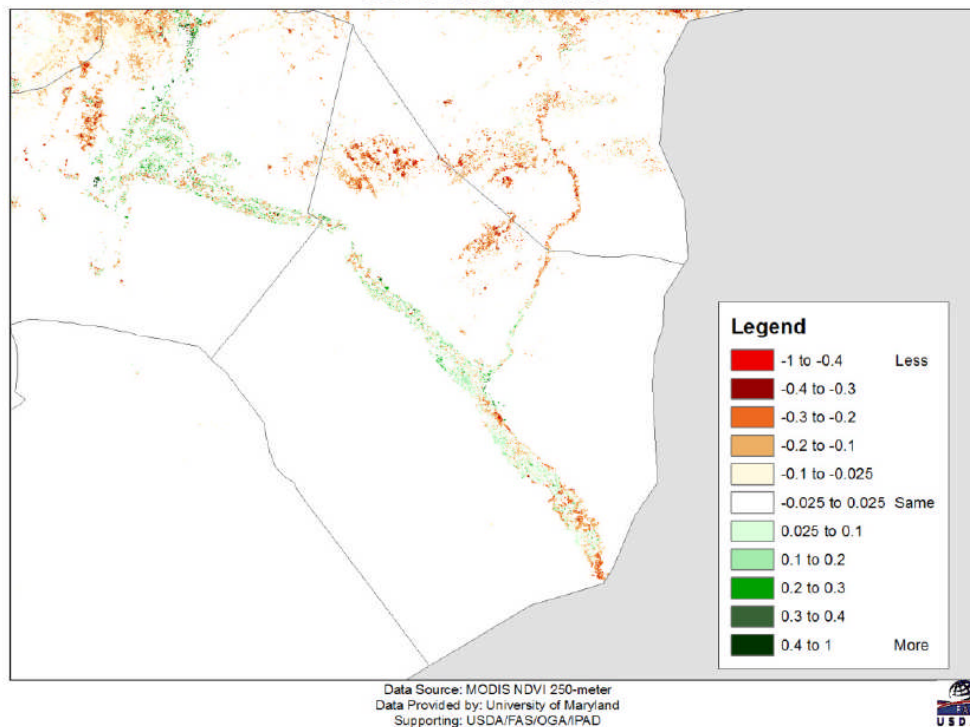


Figure 13: MY 2009/10 MODIS NDVI comparison to 2003-2007 mean for Deir ez-Zor province.

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**MODIS May 8th, 2009 NDVI Comparison to 2003-2007 Mean:
Ar-Raqqa Province**

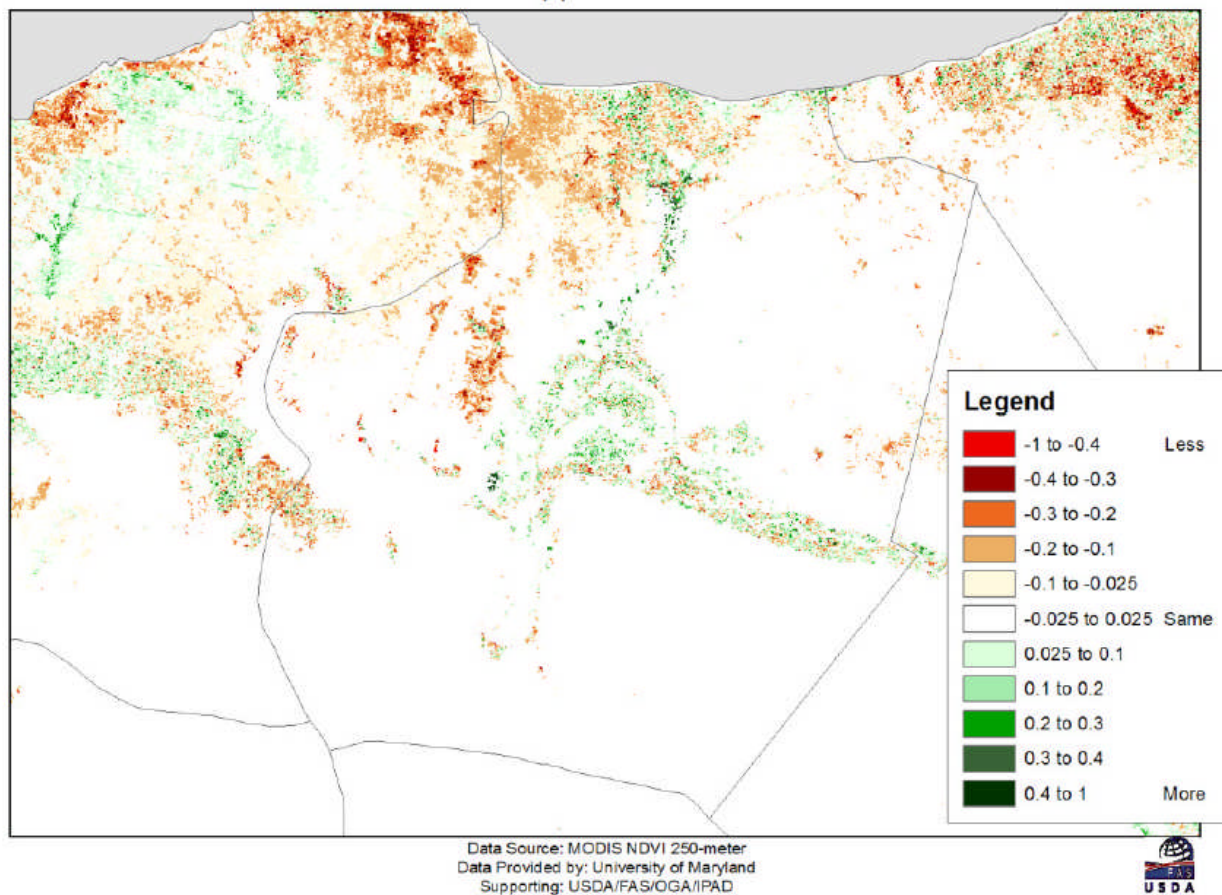
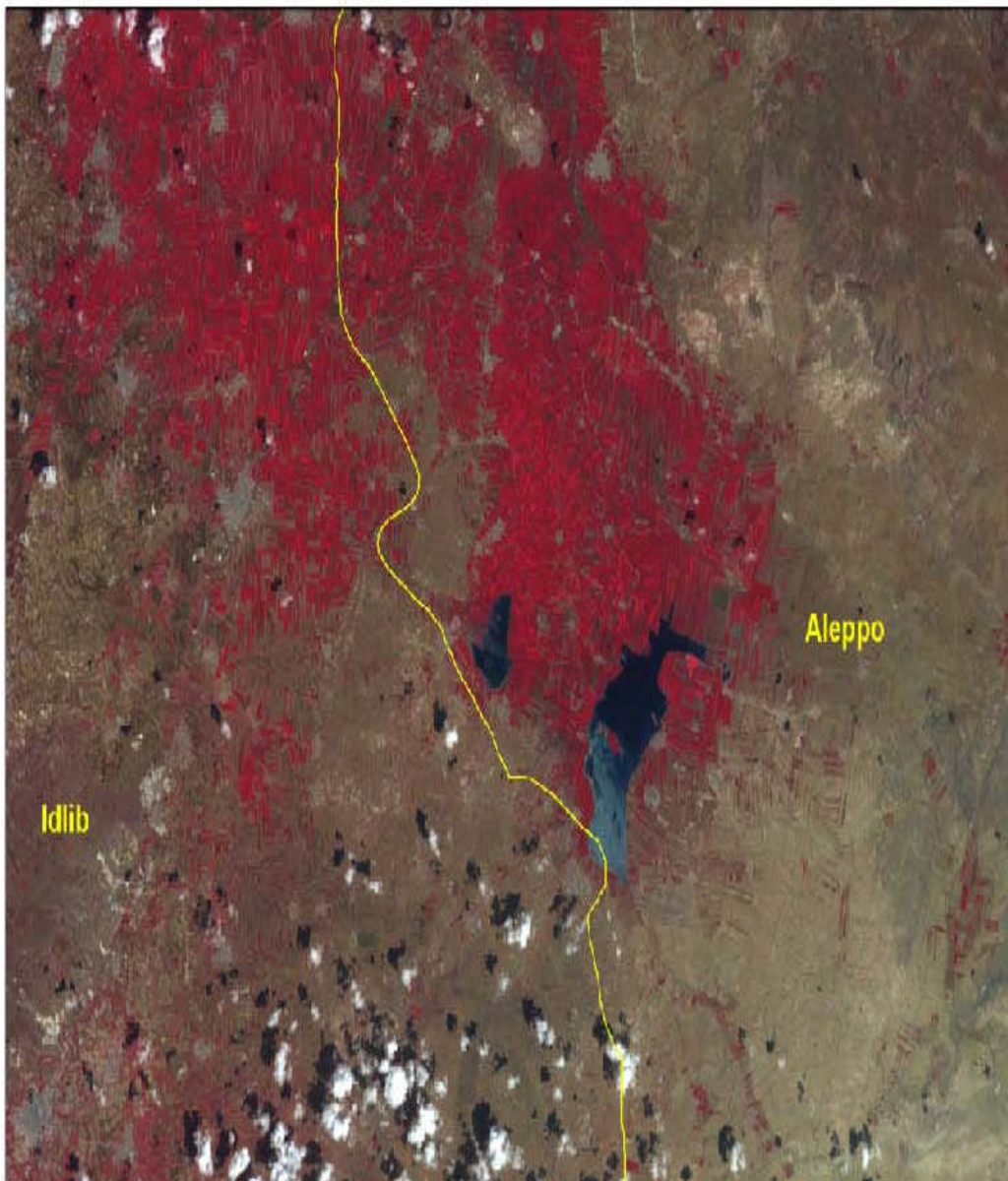


Figure 14: MY 2009/10 MODIS NDVI comparison to 2003-2007 mean for Ar-R aqqah province.

AWiFS Imagery of Idlib and Aleppo (Halab) Provinces May 9, 2009



Data source: IRS P6 AWiFS
Data provided by: NGA
Supporting: USDA/FAS/OGA International Products Assessment Division



Figure 15: AWiFS imagery of Aleppo and Idlib provinces.

MODIS May 8th, 2009 NDVI Comparison to 2003-2007 Mean:
Aleppo (Halab) and Idlib Provinces

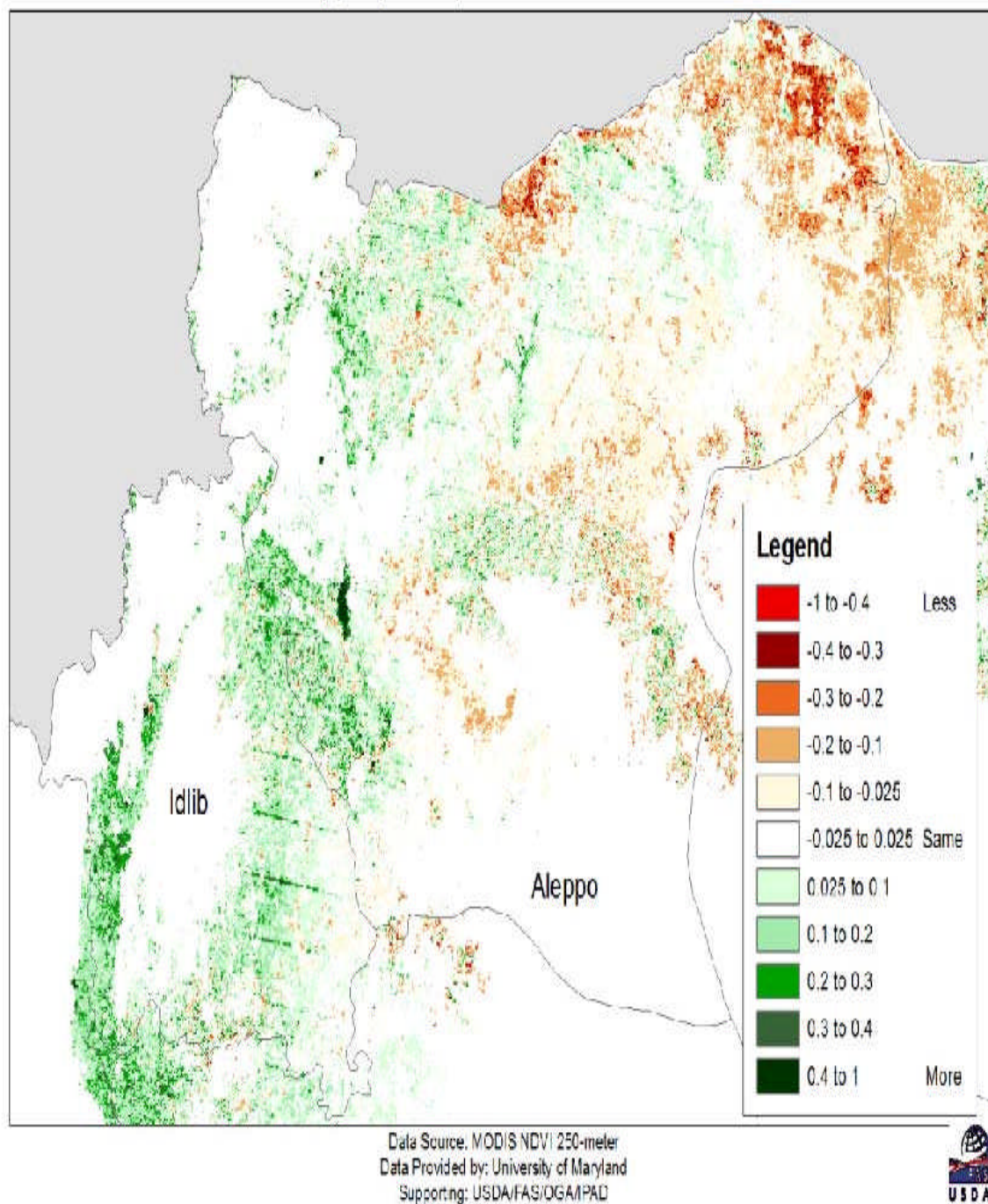


Figure 16: MY 2009/10 MODIS NDVI comparison to 2003-2007 mean for Aleppo and Idlib provinces.

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APPENDIX

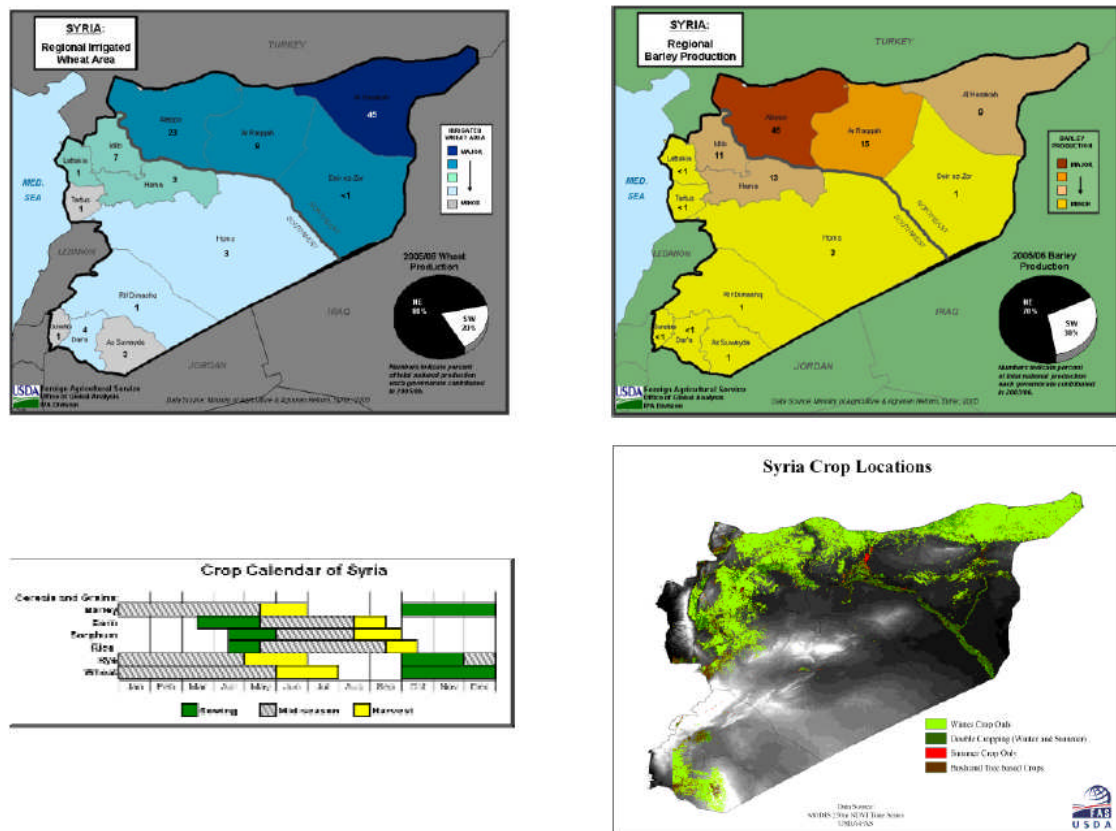


Figure A1. Crop calendar and regional wheat and barley production areas.

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